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BOOK REVIEWS

SOUTH AFRICAN PLACE NAMES, by O. A. Leistner and J. W. Morris. *Annals of the Cape Provincial Museums* vol. 12: 1–565, Oct. 1976. (Limp Cover) R10,00, obtainable from Director, Albany Museum, Grahamstown 6140.

Ten years have elapsed since Edwards and Jessop published their proposed replacement of magisterial districts with a quarter degree latitude—longitude grid as a more stable system for citing botanical records in South Africa. Through the efforts of the Botanical Research Institute, the new system very rapidly gained acceptance. Inevitably, the citation of records according to the quarter degree grid system imposed greater discipline on taxonomists as they were forced to check the accuracy of their records more closely than before. It was a tedious time-consuming operation. To simplify matters, the Botanical Research Institute produced a few computer printed indexes of localities and place names with their quarter degree equivalents. These precious indexes were much used and highly prized by those establishments favoured with a copy. Happily, the list is now available to all. One can only marvel that it was possible to assemble a team of map-scanners who could endure the mental prostitution required to compile so prodigious a tome covering place names in South Africa, Botswana and South West Africa. It is an heroic achievement.

There are errors. For instance, the *Karoo Botanic Garden* is given under 3320 BA Montagu, whereas it should be 3319 CB Worcester.

There are omissions—*Signal Hill* above Cape Town, is curiously absent. There are also anomalies. One imagines for example, that residents of so inconsequential a place as *Who Can Tell* (3022 BA Carnarvon) must be flushed with pride to find that this happy little haven is listed while that infinitely more important but equally sun-baked habitation, *Hotazel*, (2622 CB Tsabong) has been left out in the cold! Until studying this publication the reviewer would have staked his life on the assumption that *Rietfontein* is the commonest place name in South Africa. But, *Rietfontein* (61 entries) is actually way behind, with *Spitzkop* (112 entries) leading the field!

Despite these comments, which should not be taken too seriously, the only major deficiency is the absence of farm names and land grants such as appear on the 1: 250 000 Topo—Cadastral series of maps. These most useful maps were apparently not consulted. Of course, the compilers are well aware of this and stress that the work should be looked upon as an aid rather than an encyclopedia. Refinements and corrections will surely find their way into future editions but it will be very much up to the users to help fill in the gaps.

South African Place Names is a godsend; all who use it should offer up prayers of thankfulness for the drudgery it will take out of their lives. Surely, it will be at the righthand of all monographers of the South African flora and is destined to become one of the most thumbed books in our herbaria. Buy it now!

J. P. ROURKE

POLLEN: BIOLOGY, BIOCHEMISTRY, MANAGEMENT, by R. G. Stanley and H. F. Linskens, with pp x × 307, 64 figures and 66 tables. Berlin-Heidelberg-New York: Springer-Verlag. Cloth DM 59, 80; US $24,40.

Although several books on pollen (mainly on palynology) and pollination mechanisms are available, they contain little if anything on the physiology and chemical composition of pollen. This aspect of pollen research is rapidly developing and is yielding valuable information of a fundamental or applied nature. Stanley (Univ. of Florida, U.S.A.) and

Linskens (Univ. of Nijmegen, Netherlands), who have contributed significantly to this field, have by the writing of this book successfully filled the need, in part, for a comprehensive authoritative work on pollen management and physiology. The authors planned to write a second volume on such aspects of pollen physiology as incompatibility reactions, stigma responses, population effects, tropisms, metabolic and cytological changes during growth and the influence of different chemicals and treatments on the *in vitro* and *in vivo* growth of pollen – topics which are not covered by the book presently under review. It is hoped that despite the untimely death of Stanley, the proposed book will still appear in order to provide the interested reader with a complete coverage of the physiology of pollen.

The first three chapters of the book concerns the ''Biology'' of pollen. After a brief but valuable discussion of the terminology at present in use by different authors, attention is paid to the development of pollen, its dehiscence, size, quantity produced by various species and the distribution of pollen.

The second section of the book, under the heading: ''Management'' deals with the collection and uses of pollen, methods of storing pollen, factors that influence the viability of pollen, viability tests and the nutritive role of pollen. In this part of the book more attention should have been devoted to the use by man of honey bees for the collection of pollen.

In the final section, entitled: ''Biochemistry'', separate chapters are devoted to (a) the general chemical composition of pollen with special reference to its mineral constituents, (b) carbohydrates, especially those occurring in pollen cell walls, (c) organic acids, lipids and sterols, (d) amino acids and proteins, (e) nucleic acids, (f) enzymes and cofactors, (g) pigments, and (h) growth substances. The interesting allergic responses of humans to pollen is also discussed in a chapter entitled ''Pollinosis''.

The book is relatively free of errors and has an attractive appearance. It is written in a concise but lucid style. One of the major attributes of the book is the very considerable amount of data which it contains. The bibliography contains no less than 1 400 references which are listed alphabetically but unfortunately does not include the titles of the publications concerned. This extensive bibliography together with a comprehensive subject index makes the book a standard reference work which no worker in the field of pollen physiology could do without. It will probably be used mainly by research workers, lecturers and honours students due to its specialized nature and high cost.

N. Grobbelaar